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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,221	09/12/2007	Rolf-Dieter Pavlik	2002P03968WOUS	6239
7590 Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830			EXAMINER KIM, EDWARD J	
			ART UNIT 2455	PAPER NUMBER
			MAIL DATE 11/26/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/510,221

Applicant(s)

PAVLIK ET AL.

Examiner

EDWARD J. KIM

Art Unit

2455

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/23/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 14, 16, 20-23 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 14, 16, 20-23, and 31-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed on 09/17/2008 and the Request for Continued Examination (RCE) filed on 10/23/2008.
2. Claims 11, 14, 16, 20-23, and 31-35 are pending. Claim 11 has been amended. Claims 34 and 35 have been newly added.

Response to Amendment

3. The Examiner accepts the Amendment for examination purposes.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 31 recites the limitation "the industrial automation system". There is insufficient antecedent basis for this limitation in the claim.
6. Claim 31 recites the limitation "via the transport layer directly accessible by the industrial automation system" is vague and indefinite to what the term is referring to. The Applicant argues that this is distinct from the prior art disclosed by the Examiner where TCP/IP is utilized for communication between the devices on the industrial automation system and for access to the Internet. This is also well-known usage of the OSI and TCP/IP models in the art of computer networking. If different from what is done in conventional computer networks as disclosed by Kuchlin, the claimed subject matter is vague and different to what is exactly being claimed.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11, 14, 16, 20-22, 31-33, 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchlin et al. ("HIGHROBOT: Telorobotics in the Internet", Copyright 1997), hereinafter referred to as Kuchlin, in view of "Extensible Markup Language (XML) 1.0" (W3C Recommendation 10 February 1998), hereinafter referred to as XML 1.0.

Kuchlin discloses, a system that comprises of a web server that has full access to the Internet and its Web-technologies as well as industrial automation functionalities.

Regarding claim 11, Kuchlin discloses, a web server for controlling an automation device (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.), comprising:

a processor; a standard operating system that executes on the processor; a real-time operating system that executes on the processor (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4. Kuchlin discloses a web server, for carrying out web server functionalities and industrial automation functionalities, which incorporates real-time operating system.);

a first software module that provides a web page and that executes on the processor via the standard operating system (Kuchlin, Abstract, section 1, section 3.2, section 4.1. Kuchlin

discloses a system that has full access to the internet and its web technologies, where web browsers are utilized.);

a third software module providing an automation functionality to control the automation device and having an interface to the real-time operating system, the functionality including ability to execute control tasks which would otherwise be executed by standalone stored program controls, wherein the functionality of the third module, including execution of the control tasks, is loaded, configured, started and terminated by the web server (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4. Kuchlin discloses a web server, for carrying out web server functionalities and industrial automation functionalities, which incorporates real-time operating system.); and

an application programming interface (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 5. Kuchlin discloses that the software used in the system is designed according to object-oriented paradigm, for example programmed in C++ and JAVA, which utilizes APIs.); and

a connection to the Internet for access to at least one of the software modules via the application programming interface (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 5. Kuchlin discloses a system for carrying out web server functionalities as well as industrial automation functionalities, where the software used in the system is designed according to object-oriented paradigm, which utilizes APIs, for example, programmed in C++ and JAVA.).

Although Kuchlin discloses a system that has full access to the internet and its web technologies, where web browsers are utilized (Kuchlin, Abstract, section 1, section 3.2, section

4.1), Kuchlin fails to *explicitly* disclose the use of XML. XML 1.0 discloses the specification of XML which explains the functionality and interoperability of the web via XML. HTML is a predominant markup language for web pages, which provides means to describe the structure of text-based information. XML 1.0 discloses that the XML has been designed for ease of implementation and for interoperability with HTML (XML 1.0, Abstract, pg.1 second to last paragraph). XML processors are further disclosed in the first paragraph of pg.4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Kuchlin with those of XML 1.0 to include XML parsing and processors. One would have been motivated to do so, as it was known in the art that XML is a standard way of structuring data (syntax), which allows the user to define own proprietary data syntax and further build own proprietary tools with ease, which can be interoperable with predominant markup languages for web pages, such as HTML. Also, since the system disclosed by Kuchlin has full access to internet and web technologies and XML was designed to be interoperable with web page languages such as HTML, it would have been obvious to one of ordinary skill in the art to include XML parsing.

Regarding claim 14, Kuchlin disclosed the limitations as described in claim 11, and further discloses wherein internet protocols are provided for communication in the system (Kuchlin et al., Section 3.2, Section 4.1, Section 4.2, Section 4.3. Kuchlin discloses that the system is implemented on a common interface protocol, the Internet protocol.). It would have been obvious at the time the invention was made, to utilize the Internet protocol between the software modules themselves and for communication between the software modules and components outside the web server. One would have been motivated to do so to standardize the

communication interface of the system, to minimize conflict caused by utilizing different protocols and to minimize adaptation to other protocols in the system itself.

Regarding claim 16, Kuchlin disclosed the limitations as described in claim 11, and further discloses wherein the web server is adapted to configure and administrate the software modules (Kuchlin, section 4.2.2, section 4.2.4).

Regarding claim 20, Kuchlin disclosed the limitations as described in claim 11, and further discloses wherein the automation device is a computer numerical controlled machine (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 4.2. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.).

Regarding claim 21, Kuchlin disclosed the limitations as described in claim 11, and further discloses wherein the automation device is a drive (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 4.2. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.).

Regarding claim 22, Kuchlin disclosed the limitations as described in claim 11, and further discloses wherein the automation device is a valve (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 4.2. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.).

Regarding claim 31, Kuchlin discloses, an automation system that controls an automation device via the Internet, comprising (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.); a first web server, comprising;

an application programming interface (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 5. Kuchlin discloses that the software used in the system is designed according to object-oriented paradigm, for example programmed in C++ and JAVA, which utilizes APIs.),

a software module for providing an automation functionality to control the automation device via the application programming interface and to directly access a first transport layer, and a first connection to the Internet via the first transport layer, the connection for access to the software module by a client via the application programming interface; a second connection to the Internet via a second transport layer directly accessible by the industrial automation system, wherein the automation device is directly accessible from the Internet via the second transport layer, and wherein the automation device is accessible from the first transport layer via the second transport layer (Kuchlin, section 1, section 3.2, section 4, section 4.1, section 4.2. Kuchlin discloses the use of TCP/IP in the system. It is well-known in the art that the TCP/IP is the best-known example of a Layer 4 Protocol - supported by paragraph [0026] and [0031] of the disclosure by the Applicant. Kuchlin also discloses remote access and control via the internet.).

Regarding claim 32, Kuchlin disclosed the limitations as described in claim 31, and further discloses wherein the industrial automation device is a computer numerical controlled machine (Kuchlin, Abstract, section 1, section 2, section 3.2, section 4, section 4.2. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.).

Regarding claim 33, Kuchlin disclosed the limitations as described in claim 31, and further discloses, wherein the industrial automation device is a drive (Kuchlin, Abstract, section

1, section 2, section 3.2, section 4, section 4.2. Kuchlin discloses a web server for carrying out web server functionalities as well as industrial automation functionalities.).

Regarding claim 34, Kuchlin disclosed the limitations as described in claim 14, and further discloses, wherein the web server is further configured to directly access a transport layer and effect a direct connection between a first protocol stack to which a fourth software module is connected for control of a second automation device, the direct connection effecting direct communication between the third software module and the second software module (Kuchlin, section 1, section 3.2, section 4, section 4.1, section 4.2.).

Regarding claim 35, Kuchlin disclosed the limitations as described in claim 34, and further discloses, wherein the second protocol stack and the fourth software module are integrated in a second web server so that access between the first and second protocol stacks can be effected via the Internet and via the direct connection (Kuchlin, section 1, section 3.2, section 4, section 4.1, section 4.2.).

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchlin et al. ("HIGHROBOT: Teleroobotics in the Internet", Copyright 1997), hereinafter referred to as Kuchlin, in view of "Extensible Markup Language (XML) 1.0" (W3C Recommendation 10 February 1998), hereinafter referred to as XML 1.0., in further view of Modeste et al. (US Pub. #2003/0056012 A1), hereinafter referred to as Modeste.

Regarding claim 23, Kuchlin disclosed the limitations as described in claim 11, however, fails to *explicitly* disclose the use of a firewall for connection to the Internet. The use of a firewall for security purposes is well-known in the art as evidenced by Modeste et al. Modeste et

al. discloses a web server comprising a connection to the internet utilizing a firewall (Modeste, fig.4, paragraph [0041]). It would have been obvious to one of ordinary skill in the art at the time the invention was made, to implement a firewall into the teachings of Kuchlin, as shown by Modeste, to prevent unauthorized access to the web server and the industrial automation system.

Response to Arguments

10. Applicant's arguments filed 09/17/2008 have been fully considered but they are not persuasive.

11. The Applicant argues,

"In this regard, applicants urge that the outstanding rejection does not address all of the features recited in independent claim 31. That is, claim 31 recites both "a first connection to the Internet" and a second connection to the Internet via the transport layer directly accessible by the industrial automation system" so that the automation device is accessible both: "from the Internet via the first connection" and "from the transport layer via the second connection". This structure is fully described for two exemplary embodiments (see Figs 4 and 5 of the application) at P[0026] to [0028]." (refer to second paragraph of pg.6 of the Amendment filed 09/17/2008)

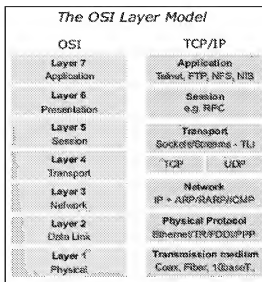
The Examiner respectfully disagrees.

Figs. 4 and 5, and paragraphs [0026] - [0028] of the application cited by the Applicant refers to the TCP/IP stacks, which are used for accessing the Internet and also the communication between the automation devices.

Kuchlin discloses remote access by a user to the automation device via the Internet, and also discloses that the automation device and the system both have "immediate access to TCP/IP networking" (Kuchlin, refer to section 3.2). Therefore, TCP/IP is used for communication between the devices on the industrial automation system and for connection to the Internet. This

is analogous to what is disclosed by the cited figures and paragraphs of the Applicant's disclosure in support of the claimed subject matter.

Also, refer to the OSI model and TCP/IP models which provide a basis for computer networking systems.



The Applicant fails to disclose in detail how the claimed subject matter is different from the prior art cited by the Examiner. If different from what is commonly known in the technology, for example the use of OSI and TCP/IP models in computer networking, and different from the prior art disclosed by Kuchlin, the Examiner urges the Applicant to thoroughly explain how it is different, and maybe incorporate it into the claim language.

The newly added claims 34 and 35, are claiming the same subject matter which is claimed in claim 31. Therefore, claims 34 and 35 are rejected on the same basis as claim 31. Kuchlin discloses the use of protocol stacks to access the Internet and direct communication between the devices on the industrial automation system.

The Applicant is reminded that the Examiner takes the broadest reasonable interpretation of the claim language for examination purposes.

The Applicant argues,

“Claim 11 as now proposed most fully distinguishes over the Examiner’s combination because it now requires, among other features, that the

“third software module providing an automation functionality to control the automation device and having an interface to the real-time operating system, the functionality including ability to execute control tasks which would otherwise be executed by standalone stored program controls, wherein the functionality of the third module, including execution of the control tasks, is loaded, configured, started and terminated by the web server...””

(refer to second to last paragraph of pg.6 of the Amendment filed 09/17/2008)

and further supports the argument with,

“...claim 11 does not introduce new subject matter because it contains, albeit in more detail than previously recited, subject matter searched with respect to previously canceled claim 27. Claim 27 recited that the web browser is used as a control and monitoring system.” (refer to the last paragraph of pg.6 of the Amendment filed 09/17/2008)

The Examiner respectfully disagrees.

Section 4. Telerobotics with Java and a General Object Server discloses how web browsers and remote computer systems are utilized for controlling and monitoring the industrial automation system from a remote site. Clients are able to configure, control, and monitor the robots/devices in the industrial automation system in real-time, executing control tasks such as triggering arm movements of a robot in the industrial automation system. These control tasks would otherwise be executed by other controls in the system when not accessed remotely. Since the client is able to access and control the devices on the industrial automation system, the web server part of the control device (which is the invention disclosed by Kuchlin, wherein the device

is a web server and a control for the industrial automation system), loads, configures, starts and terminates the control task. Therefore, Kuchlin discloses the claimed subject matter.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied up on is considered pertinent to applicant's disclosure.

A Shortened statutory period for reply is set to expire 3 month(s) or thirty (30) days, whichever is longer, from the mailing date of this communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward J. Kim whose telephone number is (571) 270-3228. The examiner can normally be reached on Monday - Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward J Kim/
Examiner, Art Unit 2455

/saleh najjar/
Supervisory Patent Examiner, Art Unit 2455